DOCUMENT RESUME

ED 189 028 SP 015 815

AUTHOR	Crawford, Florean D.: Cone, Richard
TITLE	Tooth Tutoring. A Mini-Course Idea Book for Elementary Grades.
INSTITUTION	University of Southern California, Los Angeles.
SPONS AGENCY	American Fund for Dental Health.
PUB DATE	79
NOTE	152p.
AVAILABLE FROM	Joint Educational Project, University of Southern California, Los Angeles, CA 90007 ($5.00)
LANGUAGE	English: Spanish
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Class Activities: Dental Health: Elementary Education: Health Education: *Minicourses: *Peer Teaching: *Primary Education: Programed Instruction: Small Group Instruction

ABSTRACT

This book provides suggestions for teaching a minicourse in dental hygiene. It is designed to serve as a guide for a health program for upper elementary students and also as a guide to implementing a tooth tutoring program. This program trains grade five students to tutor younger students in the basic principles of dental health. Each section includes a Spanish vocabulary of dental terms. (JD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED189028

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Barbara Gardner

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Tooth Tutoring

A Mini-Course Idea Book for Elementary Grades

Prepared by

Florean D. Crawford, R.D.H., M.A.
Department of Dental Hygiene
School of Dentistry

and

Richard Cone, Ed.D.
Joint Educational Project

UNIVERSITY OF SOUTHERN CALIFORNIA · LOS ANGELES 1979

SP 015815

Funding for development of
Tooth Tutoring
was provided by:
The American Fund for
Dental Health
THANKS!

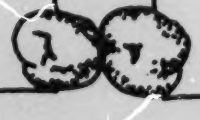
Materials in this book may be reproduced
with permission from
Joint Educational Project
University of Southern California
Los Angeles, California 90007
Barbara S. Gardner, Ph.D., Director

The book was edited by Joan Midler.

Copyright © 1979 by the
University of Southern California
Joint Educational Project

ISBN 0-88474-064-1

Printed in the United States of America



Contents

Getting Started

Introduction *page 7*
About Teaching This Course *page 8*
Tutoring *page 12*

Learning About Teeth

Mapping My Mouth *page 17*
Plaque Plague *page 21*
Brushing and Flossing *page 27*
Food and Teeth *page 33*
Shielding Your Teeth *page 37*

Training Tutors

How To Train Tutors *page 43*

Program Materials Appendix

For the Instructor *page 49*

1. Materials for Tooth Tutoring
2. Dental Dictionary — Diccionario Dental and Vocabulario Español/Inglés
3. Recipe for Models of Upper and Lower Teeth
4. Carbohydrate Evaluation

For Upper Elementary Students *page 61*

5. My Own Dental Examination
6. Progress of Decay
7. Suggested List of Snacks, Find the Word, and Find the Word Answers
8. Taking Care of Your Teeth
9. Primary Planning Guide
10. Sample Certificates

For Primary Students *page 77*

11. Why Teeth Are Important
12. What Goes into Your Mouth?
13. Toothbrush Care
14. Choose a Healthful Snack
15. What You Can Do to Have Healthy Teeth

Getting Started

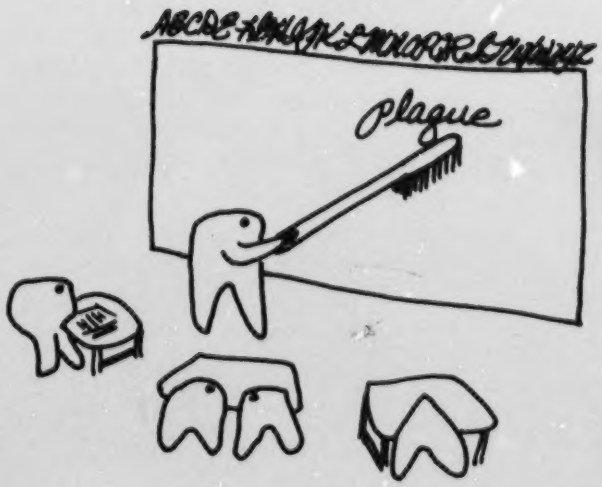
This Idea Book has been written to serve two purposes. In the hands of teachers, school nurses, dental hygienists, aides, or volunteers, it can serve as an effective guide for a six-to-ten-hour Dental Health Program in upper elementary classrooms. In the hands of a team of adults, it can serve as an equally effective guide for a Tooth Tutoring Program in which upper elementary students are trained to tutor younger students in the basic principles of dental health.

The curriculum has been field-tested as both a Dental Health Program and a Tooth Tutoring Program and has proven to be effective in reducing the dental plaque of participants.* The material has been designed for flexibility so that users can select those activities which best fit their own needs as well as the needs of their students. Those who have used the material have found that it is most effective when students are actively involved in performing experiments and, in the Tooth Tutoring Program, teaching newly-learned concepts to younger students.

All of the material included in this program has been tested in fifth-grade classrooms. The Tutoring Program has been conducted with grades one, two, and three in both English-speaking and bilingual classes. The tests of the tutoring program demonstrate that all students, not just the better students, can do an effective job of tutoring younger students.

*Dearth, Florean, and Barbara S. Gardner, "Tooth Tutoring," California Dental Association *Journal*, October 1976.

Introduction



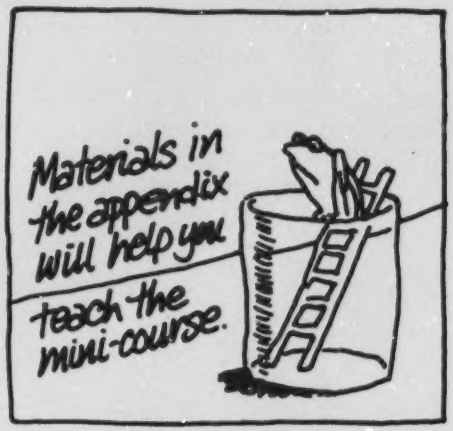
Tooth tutoring.

The purpose of this Idea Book is to provide you with some suggestions for teaching a mini-course in dental hygiene. It is a multi-disciplinary approach to health which calls upon students to get actively involved in both the learning and the teaching processes. Specific topics which are used include:

- Experiments in chemical changes in the mouth;
- Plaster of paris model construction;
- Dental hygiene techniques;
- Nutrition; and
- Consumer education for strong teeth.

11

This Idea Book has been developed to give you suggestions and a head start on planning your mini-course. Please do not think that you are limited to the activities and resources presented here. Those of you with special interests, talents, and skills should bring these into your lesson plans. Feel free to be creative and allow yourself to be responsive to the particular interests and needs of the students.



Planning This Course. Unless you have some control over the amount of time available to teach this course you probably will not want to use this book from cover to cover. Many of the activities require a great deal of time if they are used correctly. For this reason it will be necessary to plan the entire course carefully, picking those lessons and activities which are best suited to your objectives and the resources you have available. Plan with the community school teacher and with the students, being sure to include time for getting to know the students, for discussions, for clean-ups, and for an end-of-course celebration.

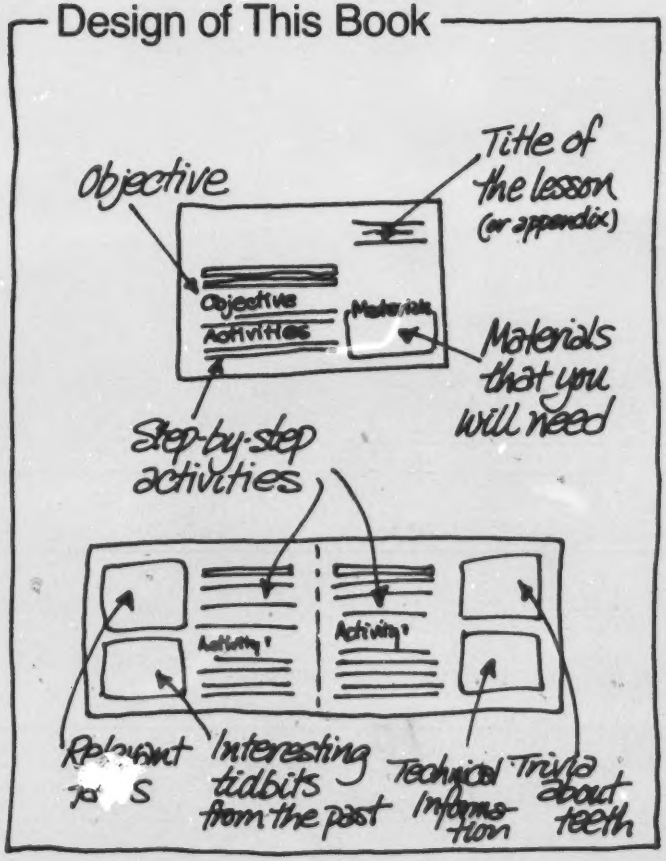
12

About Teaching This Course

By the end of the course students should have some concrete product which shows them and others that the course has been an educational experience in which they can take pride. This product might be a slide presentation, a display for the school library or resource room, a notebook they will have used when teaching others what they have learned, a bulletin board for the class, or any other demonstration that they have worked together to learn something new and that they wish to share with others.

The book is structured to help you plan. Each lesson is introduced briefly with a short description and an objective or set of objectives. Step-by-step activities are arranged in a wide column on the inside of each page so they may be followed easily. Technical information, trivia, and techniques appear in the narrower outside column. This information can be used to enhance your own understanding, to supplement the activities, or to inspire new activities. The technical information presented should not be taught unless it fits within the flow of the activities.

Design of This Book



Pointers For the Novice Teacher

Plan Ahead. Your lessons will run most smoothly if you know where you are going and how you want to get there. Each lesson in this book has an objective or set of objectives to assist you in planning, but you will need to plan the sequence of lessons, and prepare for each of the activities. If you share your plan with your students, they will have a great deal more understanding of the concepts being taught.

Don't Lecture. Lecturing is not an effective way of instructing children. Elementary school students learn best when they are actively involved. Let them handle the materials, perform the experiments, and discuss what they are experiencing.

Communicate With the Teacher. If you are a volunteer in the classroom, you will want to make special effort to work with the regular classroom teacher. He or she knows the class and the individuals within the class. Share your goals, plans, and problems frequently with the teacher. Listen to what she or he has to say.

Break the Class into Small Groups. It is much easier to have group activities if the groups are small. If three or four people are teaching this course, break the class into small groups and have each instructor work consistently with the same group during the semester. Introductions, discussions, and summaries can be profitable for the entire class as they provide new input and reassure students that their group is not missing anything. Teamwork and group planning is essential.

Know Your Students. An additional advantage to the small group approach is that each instructor will have an opportunity to get to know a few of the students really well. This increases the chances that all students will be involved and interested. Make sure to actively involve students in each lesson by calling on everyone, making frequent eye contact with all students, and giving everyone time to handle materials.

It is also important to be aware of cultural differences between students or between students and yourselves. In some cultures the use of garlic to ease the pain of a toothache is a perfectly normal action. Reaction to mention of such folk medicine either in the form of merriment or ridicule will only alienate you from your students. Keep an open mind and value the contributions of students.

Keep the Language Simple. Many of your students may have limited understanding of English. This may be a thorny problem if you do not speak Spanish, since some of the language in this book is technical even for native speakers. Avoid technical language as much as possible. Repeat instructions and information if you think students may not understand. Use Spanish phrases from the vocabulary lists provided in the book to clarify key points. Keep your explanations clear and simple even if all of the students speak English. Remember they are young and do not have the same vocabulary you have.

Variety is the Spice of Life. To keep your lessons active and to involve as many students as possible, plan a variety of activities. Some students are shy when discussing things but are great artists. Others can't draw but can write well. Others may not be able to write very well but are excellent in working with others. Let everyone excel by employing different techniques. When students make an effort to perform let them know you recognize their efforts.

If you intend to train fifth-graders to tutor younger students you will want to plan the entire program carefully. Many people will need to be involved in the various phases of planning, training, tutoring, and evaluating. Each fifth-grade class can be matched with any number of lower elementary classes, but we have found that students do their best tutoring one-to-one especially during the initial tutoring session. Make sure that you have all of the details of tutoring ironed out before you promise students they will be tutoring. This includes knowing who, where, and when they will tutor.

While there are a number of ways of structuring a tutoring program, in general we have found the following outline to be most effective:

Participants	Activity	Time
School personnel who will be involved: Fifth-grade teacher, primary-grade teachers, principal, nurse, program director	Inform all about the program, plan schedule. Be sure only those interested are included.	30 minutes
Fifth-grade students and dental health teachers	Train tutors.	5 to 8 45-minute sessions
Fifth-grade students and primary class A	Tutors work with primary tutees.	30 minutes
Fifth-grade students and dental health teachers	Critique tutoring session. Plan next session.	15 minutes

Tutoring

Participants	Activity	Time
*Fifth-grade students and primary class B	Tutors work with primary tutees.	30 minutes
Fifth-grade students and primary class A	Tutors work with primary tutees second time.	30 minutes
Fifth-grade students and dental health teachers	Tutors critique tutoring session and plan next session.	15 minutes
*Fifth-grade students and primary class B	Tutors work with primary tutees second time.	30 minutes
Tutors and primary class A	Tutors work with tutees third time.	30 minutes
Tutors and dental health teachers	Critique tutoring session.	10 minutes
*Tutors with primary class B	Tutors work with tutees third time.	30 minutes
Tutors	Plan a celebration for tutees with games (pin the toothbrush on the six-year molar) and healthful snacks (apples, popcorn, etc.).	
Tutors and tutees	Review toothbrush techniques of tutees, and have a celebration.	

*Sessions necessary only when tutors are working with two different groups of students.

The first step in understanding dental health is to become familiar with the mouth. The purpose of this lesson is to help students become familiar with basic facts about the anatomy of the mouth, the role of various types of teeth, and the present condition of their own teeth.

Objective

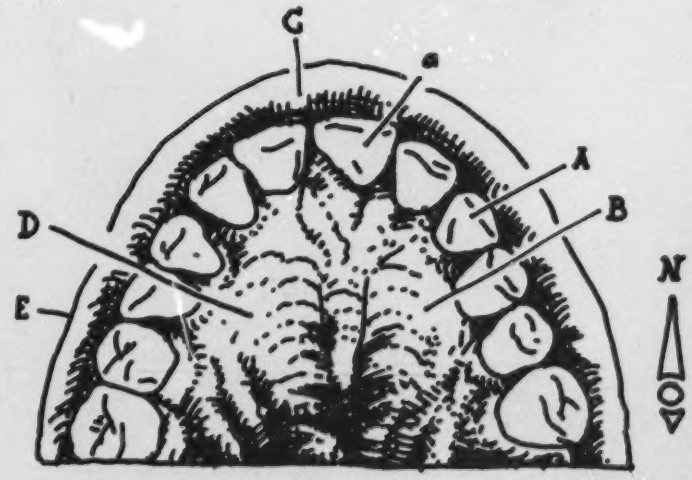
The students will identify the following:

- Cheek (inner)
- Gums
- Primary teeth
- Permanent teeth
- 4 types of teeth
- Calculus
- Stain
- Food particles
- Fillings
- Cavities
- Clean teeth

Activity 1

Introduce yourself to the class (and to your group if you are team teaching). Try to learn as many names as possible. Share your ideas about the course, letting the students know what your plans are. Give them an idea of the kinds of activities you will be bringing in.

Mapping My Mouth



Materials

Oral hygiene kits or mouth mirrors
Hand mirrors (1 per student)
Dittoed copies of My Own Dental Examination
Filmstrip In and Around My Mouth
Mouth models or materials for making models

Some Basic Facts

Primary Teeth (also known as 'baby teeth' or deciduous teeth). Come in during the first 2½ years of life and are generally replaced between the ages of 5 and 13.

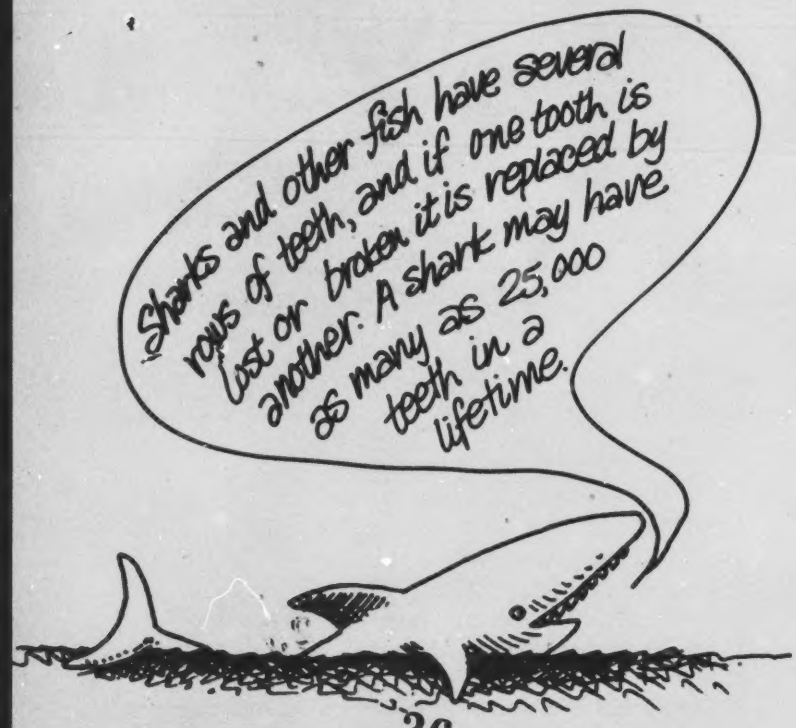
Total: 20

Permanent Teeth. Begin coming in at age 6; continue coming until approximately age 21.

Total: 32

Roles of the teeth.

Incisors — cut
Cuspids — hold and tear
Bicuspids — tear and crush
Molars — grind and chew


Sharks and other fish have several rows of teeth, and if one tooth is lost or broken it is replaced by another. A shark may have as many as 25,000 teeth in a lifetime.

Activity 2

Have the students use hand mirrors to look at their own mouths. Ask them to identify their inner cheeks, gums, and other features they see. Ask them to describe the functions of each feature they identify.

Activity 3

Using copies of *My Own Dental Examination* (see Appendix 5) have students identify which teeth they have by coloring permanent teeth one color and primary teeth another.

Activity 4

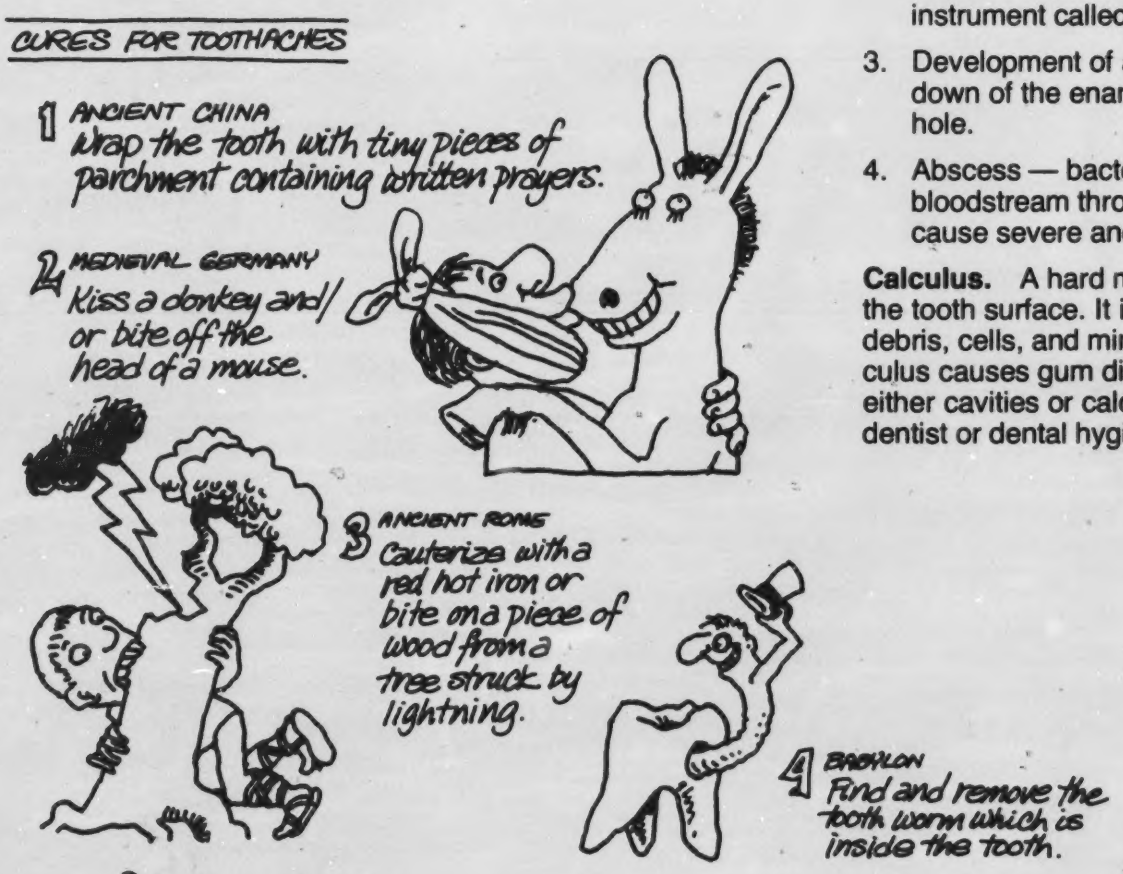
Have students make drawings of the four types of teeth they can see in their own mouths. Explain that different teeth cut, crush, tear, and grind food. Ask the students to identify the function of each tooth based upon its looks. Discuss the students' responses. If a model kit of teeth is available, it may be used to help show how the teeth work. (Plaster of paris molds can be used to make models; see Appendix 3.)

Activity 5

Ask students to place marks on their copy of *My Own Dental Examination* for fillings, cavities, and food particles. Encourage the students to make a thorough check of their mouths to spot other things that a dentist or dental hygienist might look for (loose teeth, stained teeth, calculus).

Additional Activities

- Using a collection of extracted teeth, have students examine teeth with cavities, fillings, and stain. (Get teeth from a dentist.)
- Make plaster models of teeth (see Appendix 3). Use the models for coming lessons. Plan one day for making models.
- View filmstrip *In and Around My Mouth*, Part I.


CURES FOR TOOTHACHES
1 ANCIENT CHINA
Wrap the tooth with tiny pieces of parchment containing written prayers.
2 MEDIEVAL GERMANY
Kiss a donkey and/ or bite off the head of a mouse.
3 ANCIENT ROME
Cauterize with a red hot iron or bite on a piece of wood from a tree struck by lightning.
4 BABYLON
Find and remove the tooth worm which is inside the tooth.

28

Facts for the Instructor

Fillings. Silver colored (amalgam) is used in areas not easily seen; white plastic-type material is used for front teeth.

Cavities. Tooth decay occurs in stages:

1. Weakened enamel — chalky white spot found at gumline or on chewing surface of molars and bicuspids.
2. Demineralization — pin-point soft spot which a dentist can find with a sharp instrument called an explorer.
3. Development of a cavity — final break-down of the enamel leads to a visible hole.
4. Abscess — bacteria entering the bloodstream through the decayed tooth cause severe and dangerous infection.

Calculus. A hard mineralized deposit on the tooth surface. It is composed of food debris, cells, and mineralized plaque. Calculus causes gum disease. A person with either cavities or calculus needs care by a dentist or dental hygienist.

29

Spanish Vocabulary

Vocabulario Español

Mapping My Mouth: *Mi mapa de la boca*

amalgam, silver filling: *amalgama, empaste de plata*
bicuspid: *bicúspide*
calculus: *cálculo*
canker sore: *úlcera en la boca*
cavity, decay: *picadura, carie*
cheeks: *mejillas*
clean tooth: *diente limpio*
composite filling: *empaste compuesto*
cuspid: *colmillo o cúspide*
dead tooth: *diente muerto*
frenum: *frenillo*
gums: *encías*
incisor: *diente incisivo*
inflammed gums: *encías hinchadas o inflamada*
lip: *labio*
loose tooth: *diente suelto*
molar: *muela*
normal gums: *encías normales*
palate: *paladar*
permanent teeth: *dientes permanentes*
primary teeth: *dientes primarios*
stained tooth: *diente manchado*
throat: *garganta*
tongue: *lengua*
tooth with food: *diente con comida*
uvula: *úvula o campanilla*
white filling: *empaste blanco*

Plaque Plague

Dental decay is not an act of black magic to be warded off by mysterious rites of brushing and flossing. The purpose of this lesson is to present to students an explanation of the basic facts about tooth decay so they can see the need to care for their teeth.

There is a great deal of information presented below. The instructor will need to plan carefully, perhaps deleting some activities or continuing the activities on a second day.

Objective

The students will describe in their own words the role of each of the following in the progress of decay:

Saliva
Bacteria
Plaque
Carbohydrates
Acid
Enamel
Pulp
Dentin

Materials

First Day

Construction paper squares
Cotton swabs
White flour
Red powdered tempera
Disclosing tablets (5-6)
Small containers
Indicator dye 2% aqueous methyl red solution
Nitrazine paper
Toothpicks
Sugar
Lemon drops

Second Day

**Chicken bones*
**Vinegar*
**Boiled egg*
**Dilute hydrofluoric acid (Composite or Enamolite)*
**Salt*
**Lemon juice (undiluted)*
**Water*
**Extracted teeth*
An apple
Dittoed copies of The Progress of Decay
Filmstrip — In and Around My Mouth, *Part II*

**Depends on alternative selected for Activity 5*

Some Basic Facts

Your mouth produces about 1½ quarts of saliva a day. This liquid coats every available tooth surface. Free floating bacteria cling to the coated surface like dust clings to wet paint. Once attached, the bacteria begin to reproduce and form colonies much as mold grows on bread.

Tooth Trivia

Not all animals have their teeth on their jaws. Snails have 135 rows of "teeth" (more than 15,000 in all) on their tongues. These teeth are used to file down the food.

When you were little, did you get tired of people asking to count the teeth on your tongue?

Activity 1

Explain to students that decay is due to bacteria which attaches to the teeth with saliva. Ask students to draw pictures of molars 2-3 inches high on small pieces of construction paper. Have the students paint parts of their drawings with saliva using cotton swabs. While still wet, pour on small amounts of a mixture of flour and red powdered tempera (50% flour/50% tempera) and hold the drawings vertically. Explain that saliva acts as a glue holding bacteria (mixture) to the teeth. This saliva, bacteria, and sometimes food particles form a sticky substance known as *plaque.*

Activity 2

Ask for some students to volunteer to use disclosing tablets so that you can demonstrate that bacterial growth does exist on the teeth. Explain that the tablets dye the plaque making it visible.

Activity 3

Demonstrate the formation of acid in the mouth by the following procedure:

1. In one small container place a small amount of liquid soap. In another, place white vinegar.
2. Add a few drops of indicator dye (2% aqueous methyl red solution) to each container.
3. Have students note the difference between the colors of the alkali (soap) and the acid (vinegar). The alkali should be an intense yellow; the acid red.
4. When students understand how the dye works, use toothpicks to scrape plaque from several students' teeth. Place the plaque in a clean container and add 2 or 3 drops of dye.

5. Add a few crystals of sugar to the liquid and observe the color change. If the color is not clear, stir the mass and/or add more dye. Ask students to describe what has happened.
6. Have students repeat the experiment individually, using their own plaque. Then discuss the results. Varying results may be due to faulty techniques (repeat the experiment) or to different bacterial flora in the mouth. Some students may not get a red reaction, a sign that they have different bacterial flora in the mouth and probably fewer cavities.

Activity 4

1. Ask the students to test one end of a strip of Nitrazine indicator paper in the liquid soap, the other end in the vinegar. Have them describe the results.
2. Ask them to test the acidity of their mouths by tasting a second strip. If the strip turns blue-green, it is an indication that the saliva in the mouth is neutral to basic.
3. Pass out lemon drop candies and ask the students to eat the candies then check their mouths again with the Nitrazine indicator paper. The paper will turn yellow or yellow-green if the sugar is converted to acid. Failure to get an acidic reading may be due to low amounts of plaque on the teeth or to an insufficient amount of acid to affect the paper.

Tooth Trivia

World's longest tooth, the tusk of the narwhal, grows from the tooth bud of the upper left incisor. The tusk grows to a length of 8-9 feet.

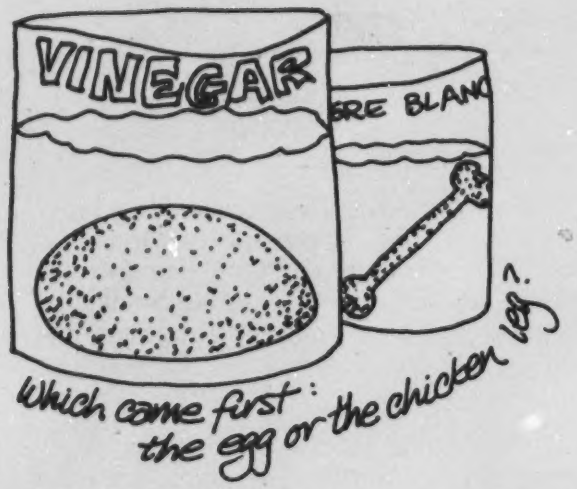
More Facts

As sugars dissolve in saliva, they become part of the plaque attached to the tooth. The bacteria which make up the plaque convert molecules of sugar into molecules of acid, primarily lactic acid.

Nitrazine paper is a sensitive paper that indicates slightly basic liquid (pH 7.5) to quite acid (pH 4.5). A color chart is given on each container. Any shade on the chart from dark green to yellow indicates an acid solution.

More Facts

Calcium is the mineral that gives strength and rigidity to egg shells, bones, and enamel of teeth. Children who suck on lemons dissolve calcium from their teeth, making cavities on their front teeth.



Activity 5

Activities demonstrating effect of acid on teeth (choose one):

- Place an extracted tooth in a dilute hydrofluoric acid used by dentists to etch teeth. Explain to students that this is much stronger acid than the acid found in the mouth but will show the effect of acid on teeth. The tooth will begin to dissolve immediately and will be badly damaged within six hours.
- Demonstrate acid's effect on calcium by placing a cleaned chicken leg bone in white vinegar for four days. Have the students observe how the bone is soft due to the acid eating calcium from the bone. The same principle can be demonstrated by placing a hard boiled egg (in the shell) in vinegar for 24 hours.
- Test the effect of five different solutions on extracted teeth by placing the following solutions in small containers:

  Vinegar
  Salt solution
  Lemon juice (undiluted)
  Sugar water

  Using five extracted teeth, coat half of each tooth with wax and place one tooth in each container. Observe the changes for two weeks. The difference may not be visible but the part of each tooth not covered by wax should have a rough surface if the tooth has been in an acidic solution. (Note — the tooth in sugar water should not be affected as sugar becomes acidic only when in contact with the bacteria found in saliva.)

Additional Activities

- Demonstrate the effect of tooth decay once the surface of the tooth has been attacked. Puncture an apple with a sharp instrument. Explain that the skin of the apple is similar to the enamel of a tooth. Set the apple aside for several days. Cut through the place where the hole is made and examine the results of decay. Pass out copies of *The Progress of Decay*. (See Appendix 6 and discuss the drawings.)
- View the filmstrip *In and Around My Mouth*, Part II.

A riddle: What two letters of the alphabet make us lose our teeth?

From the Past

If you wish to remove a tooth, apply to it dried and powdered crow dung. This application will cause the tooth to become loosened and fall out.

JOHN GLADDESDEN, PHYSICIAN
c. 1300 A.D.

Still More Facts

While the experiment in this lesson stresses the role of sugar in the process of decay, it is important to note that other carbohydrates also affect the formation of plaque and the production of acid. Table sugar (sucrose) is the least desirable carbohydrate in that it forms a thick layer of plaque and tends to hold the plaque tightly against the teeth. It is the carbohydrate that is most easily converted into acid.

Spanish Vocabulary

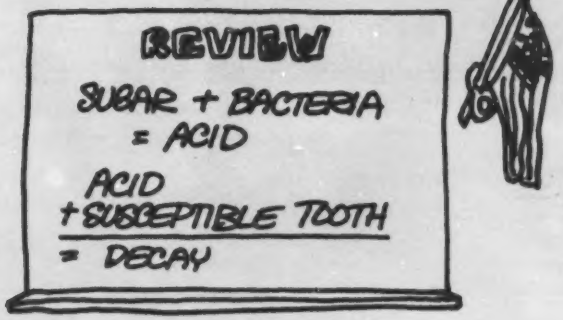
Vocabulario Español

The Plaque Plague: *La plaga de la placa*

acid: *ácido*
alkali: *álcali*
bacteria: *bacteria*
calcium: *calcio*
carbohydrates: *carbohidrátos*
decay or cavity: *carie o deterioro del diente*
dentin: *dentina*
enamel: *esmalte*
lemon: *limón*
plaque: *placa*
pulp: *pulpa*
saliva: *saliva*
salt: *sal*
sugar: *azúcar*
vinegar: *vinagre*

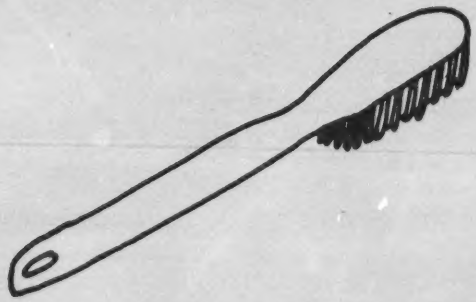
An Important Point

Plaque and sugar not only produce acids but also produce toxins. The toxins near the gum line poison the gums causing them to become swollen and inflammed. This condition is known as "gingivitis." As long as the plaque remains on the teeth at the point of contact with the gum tissue, the inflammation will continue. Continuous inflammation of the gum tissue will eventually destroy the bone supporting the teeth.



Brushing and Flossing

Once the students understand how plaque accumulates and affects the teeth, they can better appreciate the need for plaque removal by brushing and flossing. The purpose of this lesson is to help students master the most effective brushing and flossing techniques. (A note about time — one student session may be inadequate for both of these activities. It is important that students get individual attention while brushing and while flossing so as to insure they are using the correct techniques.) *This lesson is critical. Great care should be taken to insure that students both understand and practice how to care for their teeth.*



Objective

The students will brush and floss in a manner which will effectively remove both food particles and plaque.

Materials

Paper towels for desks
Chocolate cookies (1 per child)
Paper cups (1 per child)
Pitchers of water
Napkins
Oral Hygiene Kits (Mirrors, toothbrushes, disclosing tablets or solution, floss)

Facts About Brushes

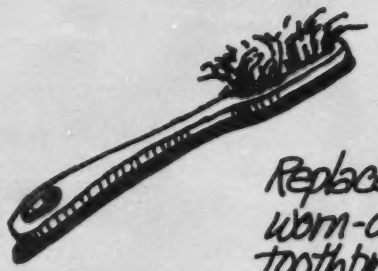
A brush which will be effective is:

- Appropriate for the size of the mouth and teeth (small enough to reach all areas of the mouth). "Junior" brushes are available for small children.
- Soft so as not to injure the gums or teeth.
- Straight across the top bristles.
- In good condition.

To prevent damage to a toothbrush do not:

- Rinse in very hot water.
- Bite or suck the bristles.
- Store in a place where it cannot dry out.

Toothbrushes should be stored where they do not touch other brushes and where they will dry out. (You may want students to complete the *Toothbrush Care* ditto as a way of reviewing these points. See Appendix 13.)



Replace worn-out toothbrushes

Activity 1

Demonstrate the most effective way of removing food particles by the following procedure:

1. Ask some students to help you pass out materials. Each student should be given:
   - A paper towel to protect the desk
   - A toothbrush
   - A mouth mirror and a hand mirror
   - A cookie (Chocolate is easy to see on teeth)
   - A napkin, and
   - A paper cup with a half cup of water

   Ask students to leave all items on the desk until they receive instruction about what they are to do. (If your students will be tutoring other students, stress that they will be demonstrating the correct brushing techniques to younger students and should learn this technique well.)
2. Ask students to chew their cookies thoroughly then use their mirrors to identify cookie left around the teeth.
3. Have students take a sip of water and force it vigorously through their teeth. You may need to demonstrate. Ask students to cover their mouths with a napkin during the swishing.
4. Again examine the teeth with the mirrors noting that some of the cookie remains.
5. Use your own teeth to demonstrate a good tooth brushing technique such as the *Circular Scrub* to the students. If the time is limited, stop with brushing cookie off teeth. Make sure that each student is brushing effectively and thoroughly.

The Circular Scrub

1. Place the bristles of the toothbrush where the teeth and gums come together on the outside surface of the upper right molars.
2. Move the brush in a short circular motion, brushing the gums as well as the teeth.
3. Follow the arch around to the left side, brushing two or three at a time.
4. Place the brush on the tongue side of the upper left molars and follow the same method of brushing around the teeth to the upper right side.
5. Place the brush on the cheek side of the lower right teeth in the same manner as the upper teeth. Brush, using the same routine for cheek and tongue side of the teeth.
6. Brush the chewing surface of the molars by scrubbing back and forth.
7. Brush the tongue lightly.

Facts About Toothpastes

The American Dental Association Council on Dental Therapeutics has evaluated many toothpastes and has given approval to some. The approved ones have this seal on the package:

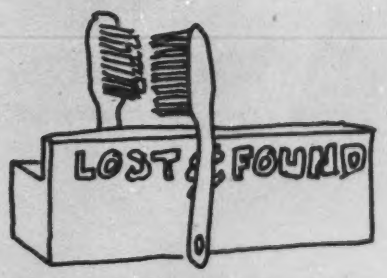
Accepted
COUNCIL ON DENTAL THERAPEUTICS
AMERICAN DENTAL ASSOCIATION

Toothpaste is the least effective way of getting fluoride on the teeth. Reported research results vary from 15 to 30% reduction in tooth decay from fluoridated toothpaste.

Fluoride is also available in tablets and in mouthwash. See "Shielding Your Teeth" for additional information about fluoride and how it works.

Bleeding

Thorough brushing and flossing may cause some people's gums to bleed temporarily. This is normal and may be due to loose teeth, the accumulation of plaque, lack of vitamin C in the diet, or an accumulation of calculus. Gentle but thorough brushing should be encouraged. If the bleeding is severe or continues over a long period of time, a visit to a dentist is recommended.



Have you seen the toothpaste?

Activity 2

Demonstrate the most effective way of removing plaque.

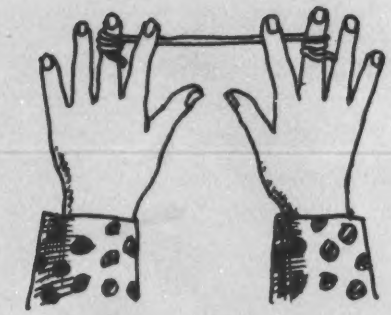
1. Dispense 5 drops of disclosing solution under the tongue of each student. Have the students swish the drops thoroughly through their teeth for about 30 seconds, swallowing excess saliva and dye solution. (Care should be taken not to get the disclosing solution on clothing, but it will wash out of most materials.)
2. Have students examine their teeth with mirrors to determine where plaque is collecting.
3. Ask the students to brush thoroughly using the method you have demonstrated. Brush along with your students to show there is no cause for embarrassment.
4. Once again use mirrors to see if any plaque remains. Demonstrate the method for *flossing*.
5. Have the students floss and make one final examination of their mouths.

An Extra Activity

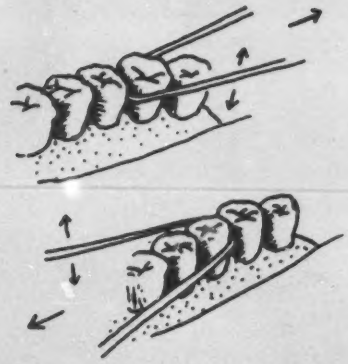
Have students fill in a chart like the one below during a two-week period. Ask them to bring their charts in at the end of that time.

	First Week		Second Week	
	Morning	**Night**	**Morning**	**Night**
MONDAY				
TUESDAY				
WEDNESDAY				
THURSDAY				
FRIDAY				
SATURDAY				
SUNDAY				

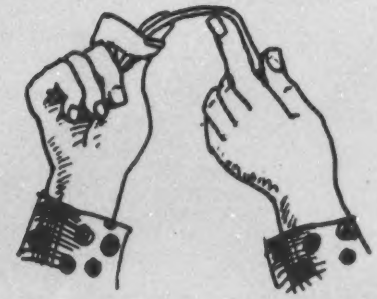
INSTRUCTIONS: Fill in a square each time you brush your teeth.



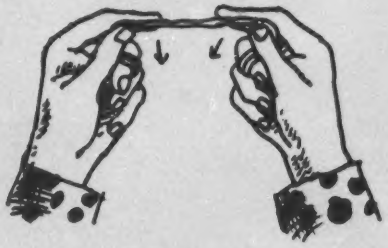
Wrap about 18 inches of dental floss around the middle fingers.



To clean the tooth, curve the floss around the tooth and move it up and down several times. Then curve the floss around the next tooth and repeat the up and down movement.



Proper position for flossing the upper teeth.



Proper position for flossing the lower teeth.

Flossing

1. Wrap a 15" to 18" length of floss around the third or fourth finger of each hand.
2. Hold the floss taut and use forefingers and thumbs to gently guide the floss between the teeth.
3. Never snap or force the floss between teeth; instead use a gentle sawing motion until the floss slides between the teeth.
4. Curve the floss around the tooth, keeping it tight around the tooth surface, moving gently "up and down." Give special attention to the area by the gums where plaque seems abundant.
5. As a section of floss becomes frayed, change to a new portion.
6. Continue flossing between all teeth and behind the last tooth on each side.
7. When removing the floss from between the teeth do not use force. If the floss gets caught, release one end and slide it through.
8. Floss daily to effectively remove plaque.

Spanish Vocabulary

Vocabulario Español

Brushing and Flossing: *Cepillándose y usando el hilo dental*

brush your teeth: *cepíllese los dientes*
dental floss: *hilo dental*
disclosing solution: *solución colorante*
floss your teeth: *use el hilo dental*
rinse toothbrush: *enjuague el cepillo*
small brush: *cepillo pequeño*
soft bristles: *cerdas suaves*
store toothbrush in holder: *guarde el cepillo en el estuche*
to brush: *cepillar*
to chew: *mascar*
to look: *mirar*
to rinse: *enjuagar*

No preste el cepillo de dientes.

51

55

Food and Teeth

In addition to brushing and flossing, the teeth can be protected by following certain nutritional patterns. The purpose of this lesson is to help students better understand the relationship between nutrition and tooth decay.

Objectives

The students will identify foods high in sugar content and foods low in sugar content.

The students will describe the effect of between-meal snacks on tooth decay.

Materials

Box of sugar cubes, 2 plastic containers
Pictures of food from Food for the Day
Dittoed copies of Find the Word
Display board
Empty food boxes (students should bring to class)
Paper
Crayons or marking pens
Masking tape
Snack lists (Appendix 7)

Activity 1

Review the role of sugar in the process of dental decay. (See "Plaque Plague.")

Food for the Day: A Sample Menu

Breakfast	**Sugar**
Doughnut (plain)	4 tsp.
Cocoa	4 tsp.
No time to brush teeth, chew a stick of gum	½ tsp.
Lunch	
Peanut butter and jelly sandwich	2½ tsp.
Corn chips	0
Cola (12 oz. can)	8⅔ tsp.
1 pkg. cupcakes	15 tsp.
Afternoon Snack	
Chocolate malt (8 oz.)	9 tsp.
Dinner	
Meat	0
Salad (with dressing)	0
Peas (buttered)	0
Chocolate cake with icing	15 tsp.
Glass of milk	0
Bedtime Snack	
Six small cookies	6 tsp. sugar
Glass of milk	0
Total:	64 ⅔ tsp.

Activity 2

Ask students to estimate how many sugar cubes would equal the amount of sugar they eat in a day. Place the largest estimate in a container. Demonstrate the amount of sugar that might be eaten in a day by the following method:

1. Suggest foods for each meal and snack. As you suggest each one, put the food picture on a display board. (See "Food for the Day.")
2. As you suggest each food, have a student helper count out sugar cubes equivalent to the amount of sugar in each food and place the cubes in a second container. Granulated sugar can be used but it is harder to handle than sugar cubes.

Activity 3

Discuss with the students the amount of sugar eaten. Ask them to suggest other foods that might contain less sugar. (See *Carbohydrate Evaluation,* Appendix 4.)

Activity 4

Help students better understand the amount of sugar in their diet by having them bring in empty food packages. Read the labels on side. Each label must list the ingredients starting with the most prevalent and descending to the least prevalent. Note the number of times "sugar" or "corn syrup" (also sugar) appears near the top of the list.

Activity 5

Pass out copies of *Find the Word* (Appendix 7) and ask students to complete both puzzles.

Activity 6

Ask each student to draw a small picture of a tooth being attacked. (Encourage students to give some character to their pictures by showing attackers as demons, monsters, jet fighter, etc.)

Draw a long line on the blackboard and label it in the following manner:

Breakfast **Lunch** **Dinner**

Explain that within 15 seconds after sugar is eaten, bacteria in plaque and saliva interact with the sugar to form acid. The acid is strongest about 15 minutes after eating the sugar but becomes diluted as more saliva reaches the mouth. Thirty minutes after eating sugar, the acid is neutralized.

Ask three student volunteers to tape their pictures of teeth being attacked on the line at the times decay is most likely taking place (just after breakfast, lunch, and dinner). Have other volunteers tape on drawings at other times of possible decay, such as after a 10:00 a.m. candy bar, a 1:15 p.m. piece of gum, or a 3:30 cola. Continue until there is a row of pictures, and ask students what they could do that would cause less decay. Make a list of acceptable snacks without excessive sugar.

A Math Activity

Students can figure the number of teaspoons of sugar in homemade foods by converting the amount of sugar into teaspoons (48 per cup), then dividing the number of teaspoons by the number of servings made by the recipe.

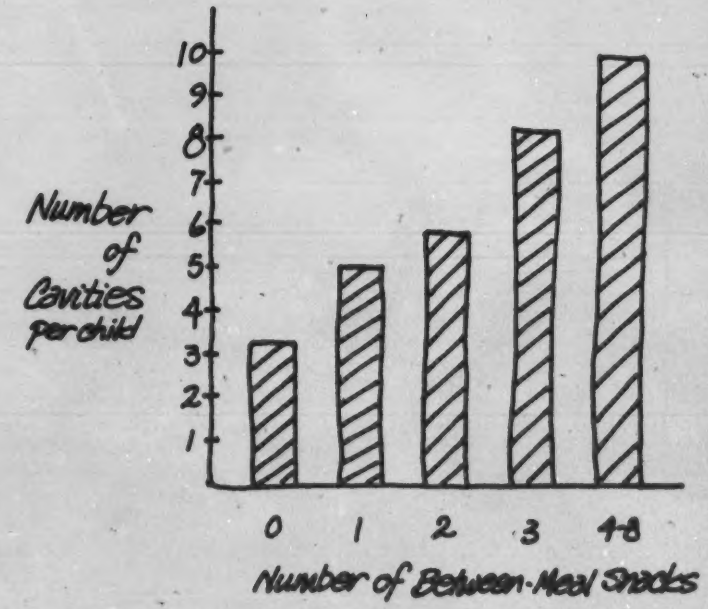
Example:

Chocolate fudge cake has 2 cups of sugar and serves 12.

Chocolate frosting has 3 cups of sugar.

$(3 \times 48) + (2 \times 48) = 240 \div 12 = 20$

Each serving has 20 teaspoons of sugar.



SNACKS and CAVITIES: a Study in West Tennessee 1956

Spanish Vocabulary

Food and Teeth: *La comida y los dientes*

Vocabulario Español

acid: *ácido*
snack: *bocadillo*
sugar: *azúcar*
doughnut: *bizcocho*
chocolate cake: *bizcocho de chocolate*
cookies: *galletas*
peas: *guisantes*
teaspoon: *cucharilla*

Tooth Trivia

Some people alter the look of their teeth for cosmetic purposes. Members of the Chichiri Tribe in Africa file their teeth to sharp points so as to look more ferocious.

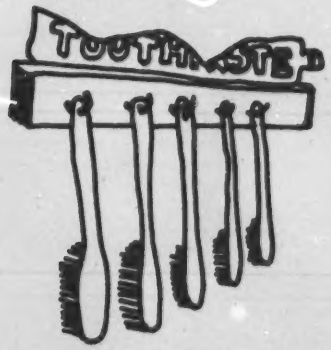
Tribesmen in Southeast Asia formerly dyed their teeth black because of a belief that having white teeth was a characteristic of dogs.

62

63

Shielding Your Teeth

Having demonstrated to students that teeth can be protected by removing the plaque (brushing and flossing) and by reducing sugar intake (nutrition), you may want to talk about shielding teeth from some of the effects of acid through the use of fluoride.



Objective

Students will identify three ways that fluoride's protective shield can be applied to teeth.

Activity 1

Demonstrate to small groups of students how fluoride protects teeth with the following experiment:

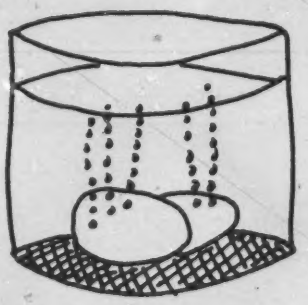
1. Using a cotton swab, cover one half of an egg liberally with fluoride gel. Let set for four minutes.
2. Place the treated egg in a mixture of one part white vinegar and one part water. The solution should completely cover the egg. Remind students that vinegar is an acid.

Materials

1 egg per group
White vinegar
Fluoride gel
1 cup per group
Selection of toothpaste boxes
Dittoed copies of Taking Care of Your Teeth

Some Facts

Fluoride is a natural substance found in many foods and water in varying amounts. For example, fish and tea are high in fluoride. When the community water supply contains 0.8 to 1.0 parts per million fluoride, people who drink the water during the first ten years of life have only one-third as many cavities as people who drink water containing less fluoride. The early years are critical in that fluoride, if available, is built into the enamel of the teeth while the crown is developing, making the tooth more decay resistant. Many communities have added fluoride to their water supply so as to offer their citizens the protection.



3. Have the students note the bubbles arising from the untreated part of the egg. The bubbles are calcium being removed from the shell of the egg.
4. Remind students of the long term effect of calcium removal (Activity 4 in "Plaque Plague"). Take a vote on how many favor using fluoride on teeth. (Note: If the egg is left in the vinegar a long period of time it will decay.) Stress that fluoride will help protect teeth but that brushing and flossing are necessary.

Activity 2

Ask students to explain how teeth can get fluoride protection. Most will know about fluoride toothpaste, some may know about dietary fluoride (see *Some Facts*), others may know about topical fluoride.

Activity 3

Ask students to use what they know about protecting teeth to select the most effective toothpastes. Show them several empty boxes of toothpaste and have them select the most effective ones (i.e., the ones accepted by the American Dental Association Council on Dental Therapeutics as containing an effective fluoride compound).

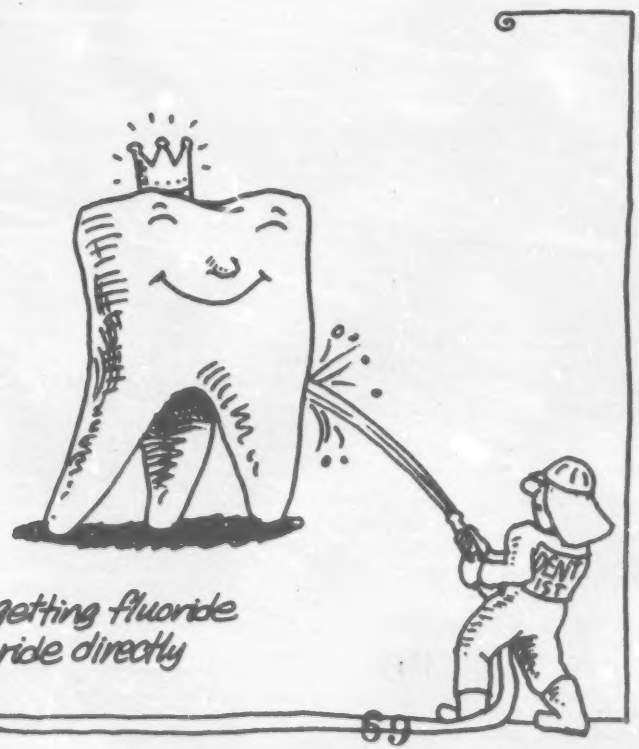
Activity 4

Review all of the lessons by having students complete *Taking Care of Your Teeth* (Appendix 8).

Spanish Vocabulary

Vocabulario Español

calcium: *calcio*
egg: *huevo*
fluoride: *fluoruro*
toothpaste: *pasta dentífrica*
wax: *cera*



When no fluoride is present in the drinking water, the best method of getting fluoride protection is to have a dentist or dental hygienist apply topical fluoride directly to the crown of the teeth.

Training Tutors

How to Train Tutors

Now that students have completed the lessons, they are ready to become tutors. While it may seem easier to tell the students what and how to tutor, experience has taught us that tutors are more committed and involved if they are forced to help plan the activities. You will find the students requesting, even demanding, highly structured plans. If you plan the tutoring sessions for them, you will find the students lacking in enthusiasm and doing a superficial job of teaching.

On the other hand, you cannot allow the students to attempt tutoring without a plan of their own. They will not be prepared and the end result may be chaos. Discuss the objectives with the tutors. See how they would accomplish the objectives. Talk about materials that would be necessary. Ask them which activities they enjoyed and which they found most helpful. With the students, design the tutoring sessions keeping in mind such things as the availability of materials, the appropriateness of the activities will really help students learn, and the likelihood that both tutors and children receiving the tutoring will enjoy the program.

Objectives

Students will review objectives for the primary grade dental health program and discuss how the objectives should be met.

Students will role-play a tutoring session.

71

Materials

Construction paper folders for worksheets
Shoe box for storing teaching tools
Toothbrushes. May want to provide two, one to use at home, one to keep at school during the project. The fifth-grade students need an adult or "tween" size, primary students need small size.
Dental floss – sample size, waxed or unwaxed
Mouth mirrors
Disclosing solution (Trace) or disclosing tablets
Hand mirrors

72

First Session
Activity 1

Pass out ditto copies of *Primary Planning Guide* (see Appendix 9). Review basic content of each of the four objectives. Make sure students can understand each objective and that their understanding of the content is adequate for accurate tutoring.

Activity 2

Have the class discuss the first objective on the *Primary Planning Guide.* What materials would they need to have to teach the objective? What activities could they use to teach the objective? Would those activities be interesting to a younger child? After students complete the first part of the planning guide, ask them to pair up and complete plans for the other objectives. Circulate among the pairs and help those students having trouble.

Follow the planning session with a discussion of alternative ways of conducting each lesson, letting students explain how they plan to conduct each lesson.

Activity 3

Make copies of the dittos (Appendices 11-15) available to students as extra resources. Encourage students to look for or develop similar activities that might reinforce some of the concepts.

Activity 4

Assemble tutoring kits.

Second Session
Activity 5

Select two volunteer students, one to play the role of the tutor and one the role of the younger student. Have the students role-play how they would teach the first objective. Ask students viewing the "tutoring" to point out what they liked about the performance. Then ask them what could be improved. Categories you may want them to consider are:

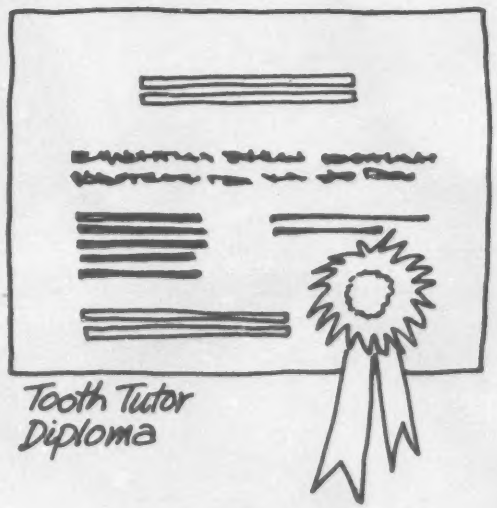
- Appropriateness of language for younger children.
- Adequacy and accuracy of information (the question of adequacy should consider how much information is too much for younger children).
- Use of visual aids and other materials.
- The degree to which the lesson was interesting and allowed the learner to discover something new.

Activity 6

Ask students to form groups of three. Ask one student in each group to be the tutor, one to be the tutee, and one to be the observer. Allow them ten minutes to role-play the second objective then have them switch roles. After ten more minutes bring the students together to discuss what they have learned. Encourage students to make comments based upon the two different roles they were playing. For example, did an activity that seemed interesting to them when they were tutoring still seem interesting when they played the role of a younger student? If time permits following the discussion, have the students regroup in the groups of three so that each student will have an opportunity to play each of the roles. Ask students to teach the third and final objective trying to use what they have learned in the discussion.

Activity 7

Pass out "Tooth Tutor" diplomas (see Appendix 10) with appropriate pomp and circumstance.



instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor

Materials for Tooth Tutoring

Materials

1. *Dental floss*
   (Source A, B, D, F, G, or H)
2. *Dental plaster*
   (Source I)
3. *Dental vibrator*
   (Source I or P)
4. *Disclosing solution*
   (Source K or L)
5. *Disclosing tablets*
   (Source A, B, C, D, F, G or N)
6. *Food models*
   (Source M)
7. *Indicator paper*
   (Source K or 0)
8. *Methyl red indicator dye*
   (Source K)
9. *Mirror, hand*
   (Source J)
10. *Mirror, mouth*
    (Source B, F, or G)
11. *Model kit containing plaster models*
    (Source E or I)
12. *Oral hygiene kits (mouth mirrors, floss, disclosing tablets, brush)*
    (Source B, D, F, G)
13. *Rubber dental molds*
    (Source E or I)
14. *Toothbrushes*
    (Source A, B, D, F, G, or N)
15. *Filmstrip "In and Around My Mouth"*
    (Source Q)
16. *Video tape "Pouring Molds"*
    (Source Q)

Commercial Source

A. American Dental Assoc.
211 E. Chicago Ave.
Chicago, IL 60611
(Materials 1, 5, 14)

B. Block Drug Co., Inc.
Professional Relations
105 Academy St.
Jersey City, NJ 07302
(Materials 1, 5, 10, 14 in kits or individual items)

C. D. Brownlee & Co. (Xpose Tablets)
P.O. Box 1016
Bellaire, TX 77401
(Material 5)

D. Colgate-Palmolive Co.
Professional Services Dept.
302 Park Ave.
New York, NY
(Materials 1, 5, 14 in kits)

E. Columbia Dentoform (Model Catalog #33)
49 E. Twenty-first St.
New York, NY 10010
(Materials 11, 13)

F. Cooper Laboratories
7101 Case Ave., Bldg. 15
North Hollywood, CA 91605
(Materials 1, 5, 10, 14 in kits)

G. John O. Butler Co.
540 N. Lake Shore Drive
Chicago, IL 60611
(Materials 1, 5, 10, 14 in kits)

H. Johnson and Johnson
Department 2-A-7
New Brunswick, NJ 08900
(Material 1)

I. Local dental supply house. Ask your dentist or look in Yellow Pages of telephone book.
(Materials 2, 3, 11, 13)

J. Local glass shop. Look in Yellow Pages. If you give them plenty of time they may be able to use scrap mirror glass that will cost you little. Have the edges polished.
(Material 9)

K. Local pharmacy
(Materials 4, 7, 8)

L. Lorvic Corp. (Trace Disclosing Solution)
8810 Frost
St. Louis, MO 13134
(Material 4)

M. National Dairy Council
6300 N. River Road
Rosemont, IL 60018
(Material 6)

N. Proctor & Gamble
Professional Services Division
P.O. Box 171
Cincinnati, OH 45201
(Materials 5, 14)

O. VWR Scientific
15408 Blackburn Ave.
Norwalk, CA 90650
(Material 7)

P. Whaledent
236 Fifth Ave.
New York, NY 10001
(Material 3)

Q. Dental School
University of Southern California
Attn. Florean Crawford
University Park
Los Angeles, CA 90007

Abscess: an accumulation of pus in the bone or gum tissue which results from an infection.

Absceso: *infección en el hueso.*

Bacteria: microorganisms (germs) capable of producing disease under certain conditions; usually too small to be seen without a microscope.

Bacteria o microbio: *causan enfermedades bajo ciertas condiciones usualmente muy pequeña para ser vista sin el microscopio.*

Bicuspid: teeth with two cusps used to tear and crush.

Bicúspide: *dientes que tienen dos cuernos (cúspides) y son usados para hacer pedazos y moler la comida.*

Blood vessels: the arteries, veins, or capillaries through which blood flows to nourish cells in the body.

Arterias: *venas y vasos capilares a través de los cuales la sangre alimenta las células del cuerpo.*

Bone: hard substance forming the skeleton of the body.

Hueso: *substancia dura que forma el esqueleto del cuerpo.*

Calcium: mineral important in growth and health of bones and teeth.

Calcio: *un mineral importante en el crecimiento y salud de los huesos y dientes.*

80 **Carbohydrates:** sugar and starch groups of foods.

Almidón o carbohidrátos: *azúcar y almidón en los alimentos.*

Cavity: hole in the tooth.

Cementum: part of tooth that covers the root.

Chew: to bite and grind or crush with the teeth.

Crown: part of tooth we see when we look in the mouth.

Cuspid: pointed tooth toward front of mouth used to tear food.

Decay: localized disease that destroys the tooth.

Dental floss: nylon or silk thread used to remove dental plaque from the in-between surfaces of the teeth.

Dental hygienist: person who cleans teeth and teaches care of teeth.

81

Dental Dictionary
Diccionario Dental

Cavidad: *un agujero en el diente.*

Cemento: *parte del diente que cubre la raíz.*

Mascar: *masticar el alimento.*

Corona: *parte del diente que vemos cuando miramos dentro de la boca.*

Colmillo o cúspide: *diente afilado que está en el frente de la boca y es usado para partir la comida.*

Algo podrido, picadura: *enfermedad local que destruye el diente.*

Hilo dental o seda dental: *que se usa para remover la placa de los dientes y entre estos.*

Higienista dental: *una persona que limpia los dientes y enseña el cuidado de los mismos.*

Dentifrice: paste, powder used to help the toothbrush clean the teeth.

Dentin: material making up most of the tooth. Found below enamel in crown and under cementum in the root.

Dentist: one whose profession is dentistry.

Digestion: the breakdown of food in the mouth, stomach, and intestines, so the body can absorb it.

Disclosing solution: water soluble dye used to stain plaque on the teeth.

Enamel: hard outer covering of the crown of the tooth. Hardest material in the body.

Examine: to look carefully to find out the physical condition.

Dentífrico: *pasta o polvo usado para ayudar al cepillo a limpiar el diente.*

Dentina: *material que forma la mayor parte de diente. Se encuentra debajo del esmalte en la corona y debajo del cemento en la raíz.*

Dentista: *doctor de los dientes.*

Digestión: *trituración del alimento en la boca, el estómago y los intestinos para que el cuerpo pueda asimilarlos.*

Solución colorante: *tintura que muestra la placa encima de los dientes.*

Esmalte: *capa dura que cubre el exterior de la corona del diente. Es el material más duro del cuerpo.*

Examinar: *mirar o inspeccionar cuidadosamente para saber las condiciones físicas.*

Filling: material used to fill a cavity.

Fluoride: mineral that strengthens tooth structure and prevents tooth decay.

Food: any substance taken into and assimilated by a plant or animal to keep alive and enable it to grow.

Gingivitis: inflamed and infected gums.

Gum: the soft tissue that is around the teeth. Usually pink but may be brownish.

Incisor: front teeth used for cutting food.

Jaw: bone in which the teeth grow.

Malocclusion: crooked teeth or jaws that do not close correctly.

Empaste: *material usado para cavidades en los dientes.*

Fluoruro: *mineral que pone duro los dientes y evita las caries.*

Alimentos: *substancias ingeridas y asimilados por plantas o animales para mantener el cuerpo en buena salud.*

Gingivitis: *inflamación de la encías; encías que sangran y están infectadas.*

Encías: *tejido o tisú blando que rodea los dientes. Es de color rosado pálido pero puede ser más oscuro.*

Diente incisivo: *diente delantero que se usa para cortar la comida.*

Mandíbula: *hueso de la boca en donde crecen los dientes.*

Maloclusión: *dientes o mandíbulas torcidas que no cierran correctamente.*

Molar: large teeth in the back of the mouth used to grind food.

Nerves: cordlike bands of nervous tissue which connect the brain and spinal cord with other tissues of the body, and conduct impulses. The nerves to the teeth enter through the tip of the root of each tooth and carry impulses to and from the pulp in the middle of the tooth.

Neck of tooth: the slightly narrowed portion of the tooth where the crown and root meet.

Protein: substance containing nitrogen which is a necessary part of the cells of animals and plants. Meat, milk, eggs, cheese, beans, and nuts contain protein.

Pulp: soft material in the center of the tooth. Contains blood and nerves.

Muela: *piezas muy grandes que están en el fondo de la boca y son usadas para moler la comida.*

Nervios: *tejidos en forma de cuerdas que conducen los impulsos nerviosos y conectan el cerebro y la espina dorsal con otros tejidos del cuerpo. Los nervios de los dientes entran a través de la punta de la raíz de cada diente y conducen los impulsos nerviosos de la pulpa del diente hasta el cerebro y vice-versa.*

Cuello de diente: *donde la corona y la raíz del diente se encuentran.*

Proteína: *substancia que contiene nitrógeno el cuál forma parte de las células de animales y plantas. La carne, la leche, los huevos, el queso, los frijóles y las nueces contienen proteína.*

Pulpa: *material suave que está en el medio del diente. Contiene sangre y nervios.*

Root: part of the tooth in the jaw bone.

Saliva: a clear fluid secreted from glands in the mouth; helps to keep the mouth moist, lubricates food, and aids in the digestion of food.

Six-year molar: first permanent molar. Comes in when child is six years old.

Space maintainer: an appliance placed in the mouth to keep teeth from moving into the space made by a prematurely lost primary tooth.

X-ray: a photograph which penetrates the surface and shows the inside of the teeth and jaws.

Wisdom tooth: last molar to come in.

Raíz: *parte de diente que está en el hueso mandibular.*

Saliva: *líquido que segregan las glándulas de la boca; ayuda a mantener la boca humeda, lubrica los alimentos y ayuda en su digestión.*

Muela de seis años: *la primera muela permanente. Sale cuando un niño tiene seis años.*

Mantenedor de espacio: *un aparato que se coloca en la boca para impedir que los dientes se muevan hacia el espacio que queda cuando se pierde prematuramente un diente de leche o primario.*

Rayos X: *fotos o placas fotográficas que muestran el interior de los dientes y mandíbulas.*

Cordal: *la última muela en salir.*

☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instruc

88

a

ácido: acid
álcali: alcali
alimentos: food
absceso: abscess
azúcar: sugar

b

bacteria: bacteria
bicúspide: bicuspid
bocadillo: snack

c

calcio: calcium
cálculo: calculus
carbohidratos: carbohydrates
cavidad: cavity
cemento: cementum
cepillar: to brush
cepillo pequeño: small brush
cerdas suaves: soft bristles
colmillo o cúspide: cuspid
cordal: wisdom tooth
corona: crown

Vocabulario Español / Inglés

d

dentífrico (pasta dental): toothpaste
dentina: dentin
dentista: dentist
diente con comida: tooth with food
diente incisivo: incisor
diente limpio: clean tooth
diente manchado: stained tooth
diente muerto: dead tooth
diente suelto: loose tooth
dientes permanentes: permanent teeth
dientes primarios: primary teeth
digestión: digestion

e

empaste: filling
empaste compuesto: composite filling
encías: gum
enfermedad periodontal: periodontal disease
enjuagar: to rinse
esmalte: enamel

f

fluoruro: fluoride
fósforo: phosphorus
frenillo: frenum

g

garganta: throat
gingivitis: gingivitis

h

higienista dental: dental hygienist
hilo dental: dental floss
hueso: bone
huevo: egg

i

instrumento: instrument

l

labio: lip
lengua: tongue
limpiar los dientes: prophylaxis

m

maloclusión: malocclusion
mandíbula: jaw
mantenedor de espacio: space maintainer
masticar: chew
mejillas: cheeks
mirar: to look
muela: molar
muela de seis años: six-year molar

n

nervios: nerves

p

paladar: palate
picadura (carie): cavity
placa: plaque
proteína: protein
pulpa: pulp

r

raíz: root
rayos X: x-rays

s

sal: salt
saliva: saliva
solución colorante: disclosing solution

u

úvula: uvula

Method

These models can be made to study the shape, function, and placement of the teeth in a ideal arch and also to demonstrate toothbrushing to a small group.

After a group demonstration and discussion, most fifth-grade students can pour these models successfully during their free time.

1. Premeasure plaster into 150 gram packages.

2. Pour 45 cc of room-temperature water into the mixing bowl. Slowly incorporate the plaster into the water, mixing carefully so as to avoid incorporating air into the mix. Do not whip or beat the mixture.

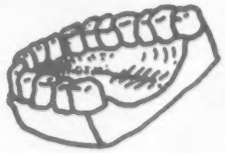
3. After the powder and water are well mixed, hold the bowl on the dental vibrator for 1½ minutes and, with heavy vibration, remove as many air bubbles as possible.

4. Holding the rubber mold on the vibrator, put a very small amount of the mixed plaster on the flange at the back of the last tooth depression. Let this plaster flow down into the tooth depression and up the other side. Add small increments of plaster, always in the same place, letting it flow from one tooth depression to the next around the arch. When all depressions have been filled, plaster can be added in larger amounts until the mold is filled.

Recipe for Models of Upper and Lower Teeth

5. Set the filled mold aside and allow it to set for a minimum of 45 minutes before separating.
• The plaster will feel very cold when it is ready to be separated.

6. Repeat using the opposite arch.



Materials

Rubber dental molds (Suggest the molds that contain 28 permanent teeth)
Dental vibrator
Dental plaster or plaster of paris (The white orthodontic stone makes hardest models)
Graduated measure for water
Pitcher of water
Knife or plastic spatula
Flexible mixing bowl (rubber or plastic)
(Optional: Video cassette or film strip "Pouring Molds")

Recetas para preparar moldes de los dientes superiores e inferiores

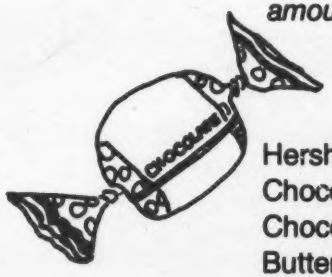
Spanish Vocabulary

Vocabulario Español

add water: *añada agua*
dental models: *muestras dentales*
dental plaster: *yeso dental*
mix together: *mezcle*
pour water into bowl: *eche agua en el recipiente*
rubber dental molds: *moldes dentales de goma*
spatula: *espátula*
vibrator: *vibrador*

or the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor ☐ for the instructor

To approximate refined carbohydrate content of popular foods expressed in amounts equivalent to a teaspoonful of sugar.



		Teaspoons of sugar
Hershey Bar	61 grams	7
Chocolate Creams	13 grams (35 to 1 lb.)	2
Chocolate Fudge	30 grams (15 to 1 lb.)	4
Butterscotch	5 grams 1 inch × 1 inch	1
Chocolate Mints	12 grams (20 to 1 lb.)	3
Chewing Gum	1 stick	½
Life Saver	1 usual size	⅓
Chocolate Sauce (thick)	30 grams 1 T.	4½
Marshmallow	1.6 grams 1 average	1½
Jam	20 grams 1 T. level	3
Marmalade	20 grams 1 T. level	3
Jelly	20 grams 1 T. level	2½
Maple Syrup	20 grams 1 T.	2½
Honey	20 grams 1 T.	3
Angel Food Cake	45 grams 1 pc. (1/12 large cake)	6
Chocolate Cake (iced)	100 grams 1 pc. (2 layer)	15
Sponge Cake	50 grams (1/10 average cake)	6
Cream Puff (iced, filled)	80 grams 1 average	5
Doughnut	40 grams 3 inch diameter	4

96

97

Carbohydrate Evaluation

		Teaspoons of sugar
Macaroons	25 grams 1 large or 2 small	3
Gingersnap	6 grams 1 medium	1
Molasses Cookie	15 grams 3½ inch diameter	2
Brownie	20 grams 2 inch × ¾ inch	3
Baked Custard	½ cup	4
Gelatin	½ cup	4
Ice Cream (vanilla)	½ cup	5
Sherbet	½ cup	6-8
Apple Pie	1/6 medium	12
Cherry Pie	1/6 medium	11
Coconut Custard Pie	1/6 medium	10
Raisin Pie	1/6 medium	13
Pumpkin Pie	1/6 medium	10
Chocolate Milk	1 cup	6
Chocolate Malt	8 ounces	9
Eggnog	8 ounces	4½
Coca Cola	12 ounce bottle	8⅔
Gingerale	12 ounce bottle	6⅔

Compiled from current publications on food values.

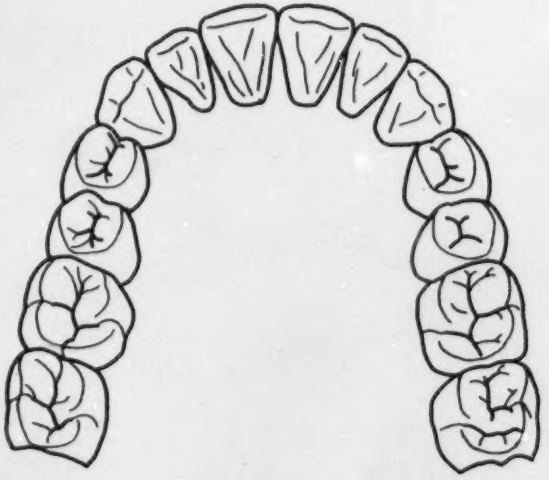
lementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for

100

101

My Own Dental Examination

Upper Jaw



Lower Jaw

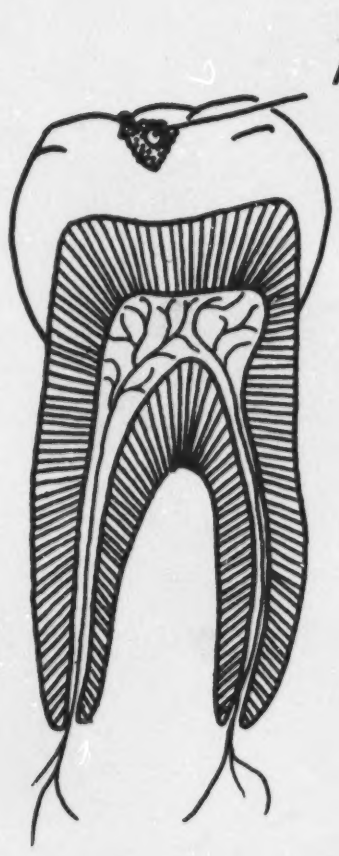
1. Look at your mouth in the mirror.
2. Put an X through any tooth on this chart that you are missing.
3. Color primary teeth red, permanent teeth blue.
4. With a pencil or black pen make a large circle on any tooth with a filling.
5. If a tooth has a cavity, make a check (✓) mark on the tooth.
6. Use a green crayon or marker to show where you have found food particles.

ary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper

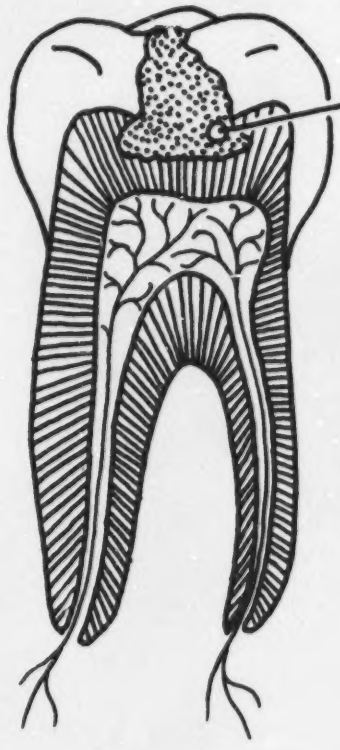
104

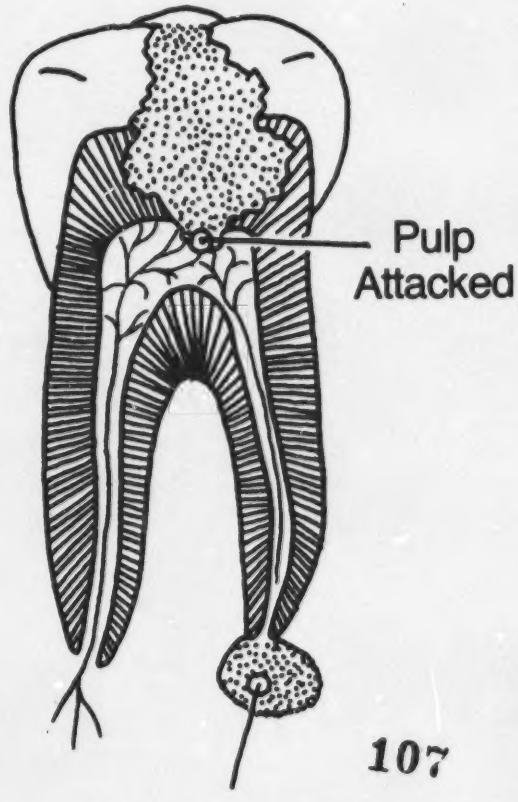
105

Progress of Decay



106



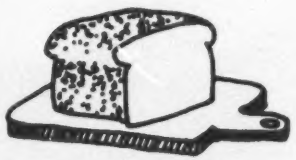


107

Abscess

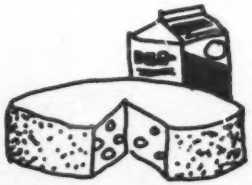
r elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ f

Suggested List of Snacks



BREAD & CEREAL

FRUITS & VEGETABLES



MILK GROUP

MEAT GROUP

OTHER

FOOD GROUP

SNACKS RECOMMENDED

BREAD & CEREAL	FRUITS & VEGETABLES	MILK GROUP	MEAT GROUP	OTHER
Breads Cereals (unsweetened) Popcorn (unsalted) Tortillas	Any fresh fruit or vegetable	Cheese Cottage cheese Milk Yogurt (plain)	Any fresh meat, poultry, or fish Eggs Nuts (unsalted or in shell) Beans	

This list has been selected from the standpoint of dental health. Foods below may contain large quantities of salt and should be limited.

OTHER SNACKS LOW IN SUGAR

BREAD & CEREAL	FRUITS & VEGETABLES	MILK GROUP	MEAT GROUP	OTHER
Crackers Cornbread	Cooked fruits (in own juice) Cooked vegetables Olives Pickles	Buttermilk	Lunch meats Processed meats, poultry, fish	Dips Soups Sugar-free foods (consult your doctor)

upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students

112

113

Find the Word

Healthful snacks (*down, across,* or *diagonal*)

P	E	A	C	H	H	Y	U	O	C
E	O	F	I	G	A	P	E	A	R
A	P	P	L	E	M	F	U	T	A
N	I	L	C	V	B	O	O	C	C
U	N	U	S	O	U	R	T	H	K
T	E	M	P	G	R	A	P	E	E
S	N	M	E	A	G	N	Q	E	R
J	U	I	C	E	E	G	G	S	W
K	T	L	A	I	R	E	X	E	T
B	S	K	N	P	I	Z	Z	A	S

You should have found these words:

APPLE
CARROT
CHEESE
CRACKER
EGGS
FIG
GRAPE
HAMBURGER
JUICE
MILK
ORANGE
PEACH
PEANUTS
PEAR
PECAN
PINENUTS
PIZZA
PLUM
POPCORN

Find the protein food *across* and the dairy food *down*.

Y	T	U	N	A	F	I	S	H	B	I	W
O	B	E	A	N	S	J	A	T	U	C	H
G	B	E	E	F	R	O	A	S	T	E	O
U	T	C	H	I	C	K	E	N	T	C	L
R	M	H	A	M	B	U	R	G	E	R	E
T	Q	E	W	I	E	N	E	R	R	E	M
S	J	E	U	L	I	V	E	R	M	A	I
F	I	S	H	K	L	A	M	B	I	M	L
S	T	E	A	K	P	O	R	K	L	N	K
H	A	E	H	A	M	T	U	R	K	E	Y
P	E	A	N	U	T	B	U	T	T	E	R

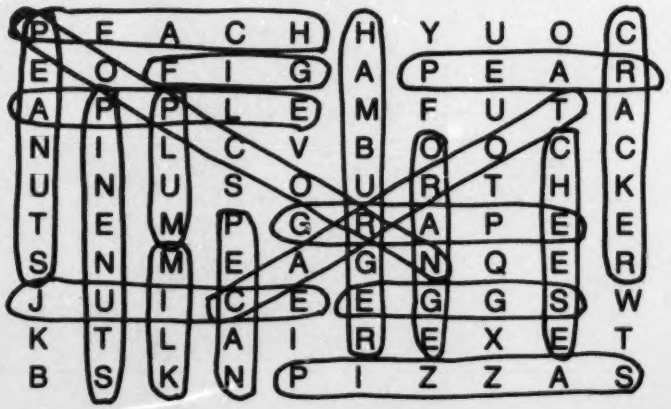
You should have found these words:

BEANS
BEEF ROAST
BUTTERMILK
CHICKEN
CHEESE
FISH
HAM
HAMBURGER
ICE CREAM
LAMB
LIVER
MILK
PORK
PEANUT BUTTER
STEAK
TUNA FISH
TURKEY
WIENER
WHOLE MILK
YOGURT

Find the Word Answers

☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary stud

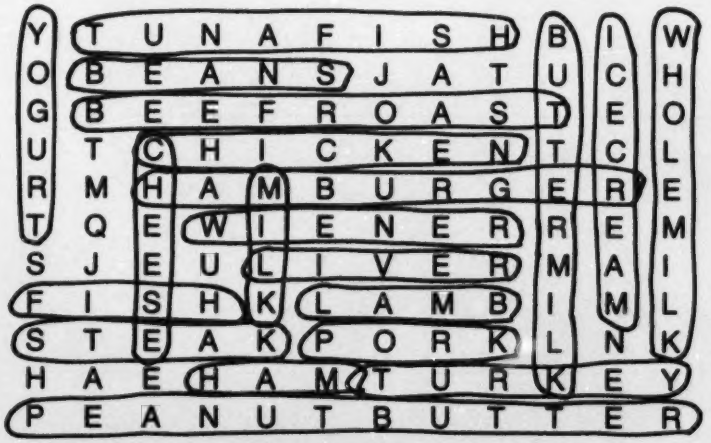
Healthful snacks (*down*, *across*, or *diagonal*)


P E A C H H Y U O C
E O F I G A P E A R
A P P L E M F U T A
N I L C V B O O C C
U N U S O U R T H K
T E M P G R A P E E
S N M E A G N Q E R
J U I C E E G G S W
K T L A N I R E X E T
B S K N P I Z Z A S

You should have found these words:

APPLE
CARROT
CHEESE
CRACKER
EGGS
FIG
GRAPE
HAMBURGER
JUICE
MILK
ORANGE
PEACH
PEANUTS
PEAR
PECAN
PINENUTS
PIZZA
PLUM
POPCORN

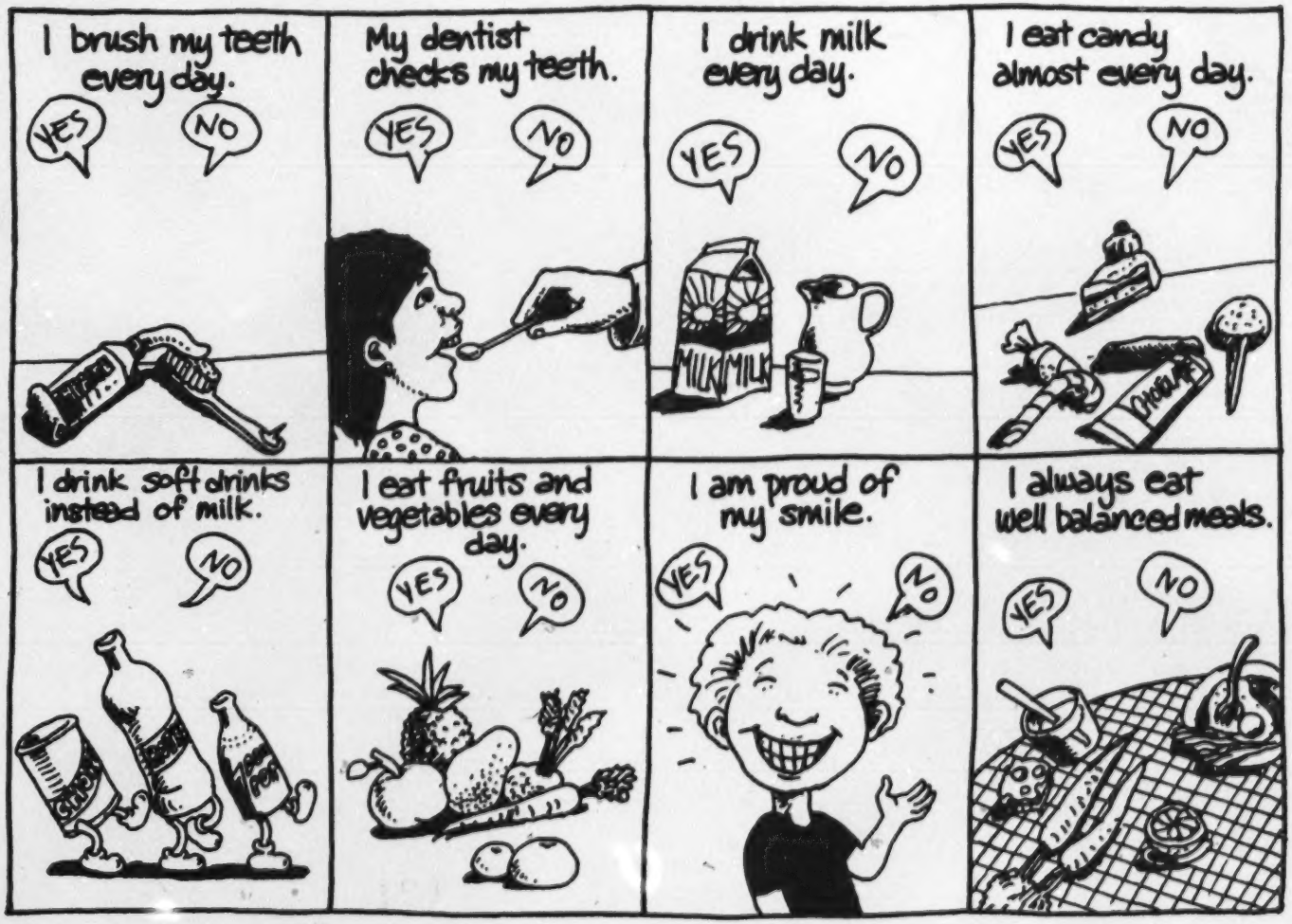
Find the protein food *across* and the dairy food *down*.


Y T U N A F I S H B I W
O B E A N S J A T U C H
G B E E F R O A S T E O
U T C H I C K E N T C L
R M H A M B U R G E R E M
T Q E W I E N E R R E I
S J E U L I V E R M A L
F I S H K L A M B I M
S T E A K P O R K L N K
H A E H A M T U R K E Y
P E A N U T B U T T E R

You should have found these words:

BEANS
BEEF ROAST
BUTTERMILK
CHICKEN
CHEESE
FISH
HAM
HAMBURGER
ICE CREAM
LAMB
LIVER
MILK
PORK
PEANUT BUTTER
STEAK
TUNA FISH
TURKEY
WIENER
WHOLE MILK
YOGURT

Taking Care of Your Teeth



In order to have healthy teeth, you must have proper dental habits. Check each habit with a *yes* or *no*.

r elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ for upper elementary students ☐ f

120

121

Primary Planning Guide

Objective 1

Students will identify the following:

Teeth
Inner cheek
Gums
Teeth
Teeth with stain
Teeth with food
Clean teeth

Activities

Materials

Objective 2

Students will use toothbrushes to remove food from their teeth.

Activities

Materials

Objective 3

Students will describe how to care for their toothbrushes.

Activities

_____

_____

_____

_____

_____

Materials

_____

_____

_____

_____

_____

Objective 4

Students will identify foods which are recommended for healthy teeth and others which are not recommended.

Activities

_____

_____

_____

_____

_____

Materials

_____

_____

_____

_____

_____

Certificamos que
This is to certify that

_____

ha completado un curso de higiene dental que lo/la capacita para servir como tutor(a) en esta materia

has completed a course in dental health and is qualified to serve as a Tooth Tutor

Firmado en este _____ día de _____, 19_____, por tu amigos

Signed on the _____ day of _____, 19 _____, by your friends

_____ _____

This is to certify that

_____

has completed a course in dental health and is qualified to serve as a Tooth Tutor

Signed on the _____ day of _____, 19 _____, by your friends

_____ _____

☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for

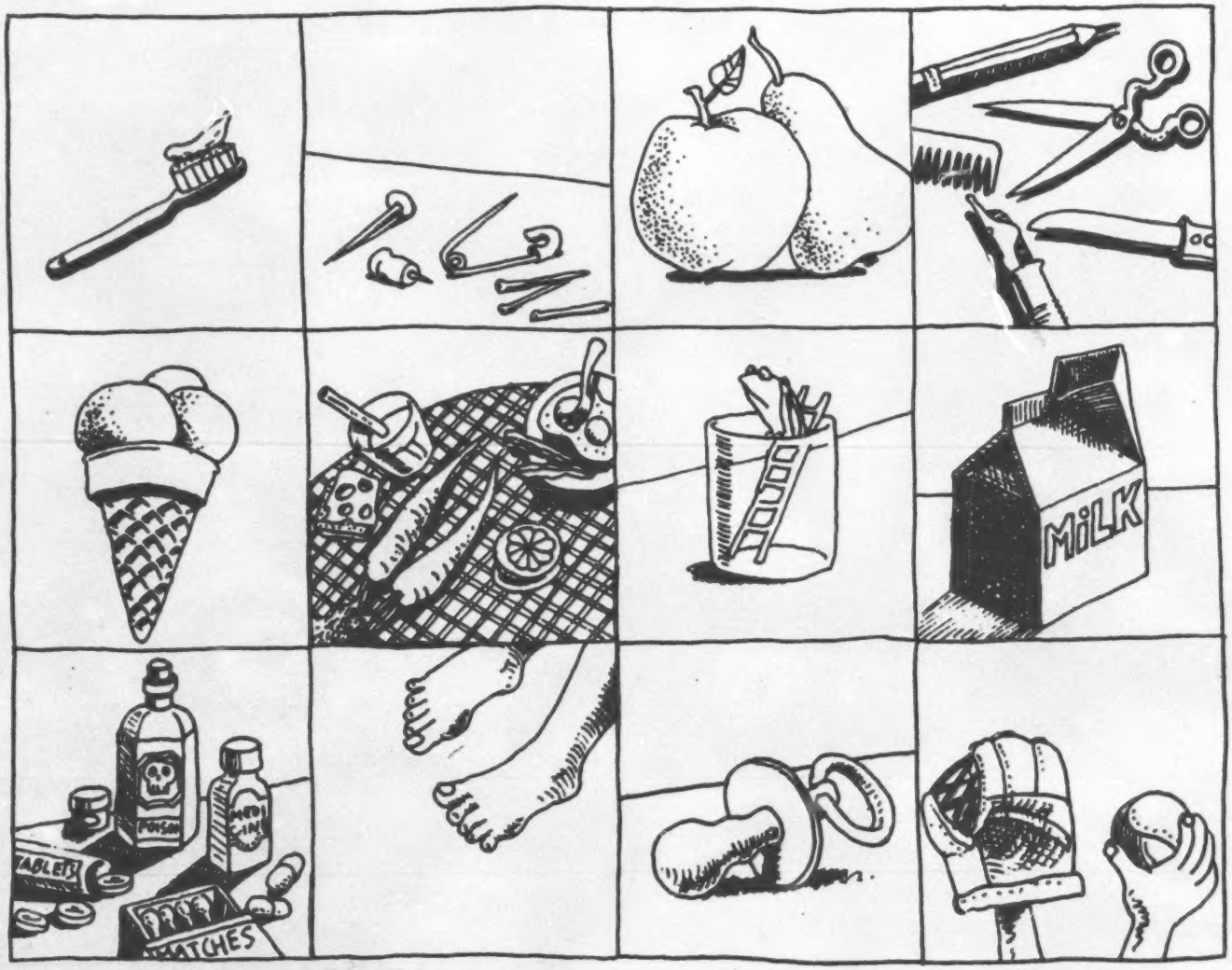
Why Teeth Are Important

Circle the pictures that show why teeth are important.

rimary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary

134

What Goes Into Your Mouth?



Cross out pictures of things you should *not* put in your mouth.

mary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary

Toothbrush Care

Circle the pictures which show good toothbrush care.

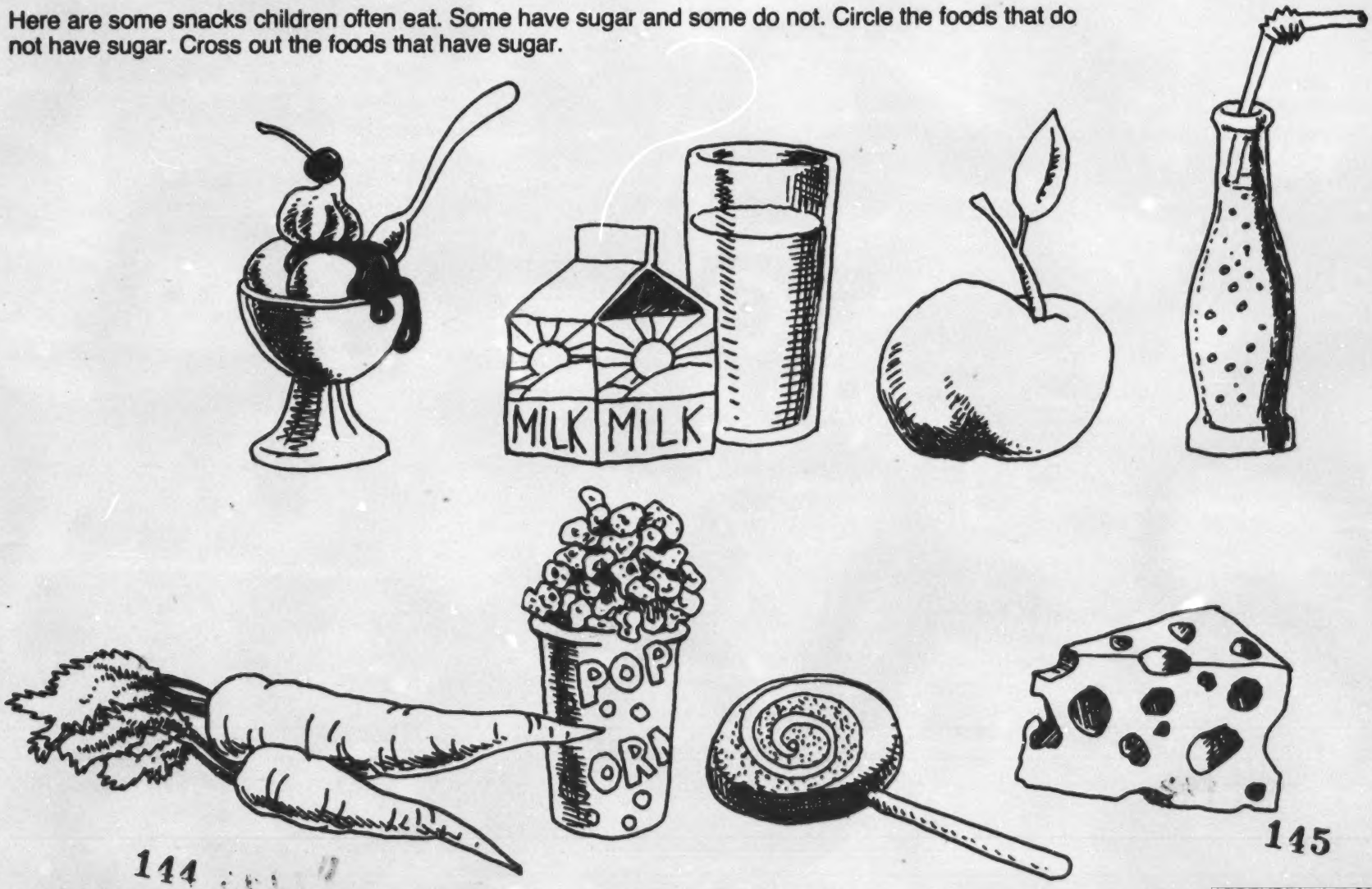
140

141

for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐

Choose a Healthful Snack

Here are some snacks children often eat. Some have sugar and some do not. Circle the foods that do not have sugar. Cross out the foods that have sugar.



y students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary students ☐ for primary stu

What You Can Do to Have Healthy Teeth

Circle the pictures that show what you can do to have healthy teeth.

BRUSH
YOUR
TEETH

FRONT COVER INSTRUCTIONS: Cross out pictures of things you should not put in your mouth.

BACK COVER INSTRUCTIONS: Circle the pictures which show good toothbrush care.